



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/662,698

09/15/2003

Steven R. Smith

99-0866.3

9778

22823

7590

03/18/2004

STEPHEN A GRATTON
THE LAW OFFICE OF STEVE GRATTON
2764 SOUTH BRAUN WAY
LAKEWOOD, CO 80228

EXAMINER

NGUYEN, DILINH P

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,698

Applicant(s)

SMITH, STEVEN R.

Examiner

DiLinh Nguyen

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 57,58 and 60-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57,58 and 60-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The Applicant fails to submit the Non Patent Literature Documents filed 9/15/03.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 57-58 and 60-82 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19, 21, 23, 26-27, 29-31 and 34-35 of U.S. Patent No. 6384487. Although the conflicting claims are not identical, they are not patentably distinct from each other because the presently claimed subject matter discloses a first polymer member on the leadframe and a second polymer member encapsulating the first polymer member correspond to an inner polymer member on the leadframe and an outer molding compound member substantially encapsulating the inner polymer member of the Patented claims.

Claims 57-58 and 60-82 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6-8, 13-14, 18

Art Unit: 2814

and 20 of U.S. Patent No. 6700210. Although the conflicting claims are not identical, they are not patentably distinct from each other because the presently claimed subject matter discloses a first polymer member on the leadframe and a second polymer member encapsulating the first polymer member correspond to an inner polymer member on the leadframe and an outer molding compound member substantially encapsulating the inner polymer member of the Patented claims.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 57-58, 60-61, 63-72, 74-75 and 77-82 are rejected under 35

U.S.C. 102(b) as being anticipated by Kennedy (U.S. Pat. 3778685).

- Regarding claims 57, 65 and 78, Kennedy discloses a semiconductor device (cover fig.) comprising:

a lead frame 15;

a die 12 on the lead frame; and

a plastic body comprising a first polymer member 13 (column 4, lines 67-68) on the die or the lead frame, and a second polymer member 14 (column 2, lines 40 et seq.) encapsulating the first polymer member, the first polymer member and the second polymer member configured to adjust a selected characteristic of the package.

Art Unit: 2814

- Regarding claims 58, 60, the Kennedy's structure discloses the selected characteristic comprises a package bow or warpage.
- Regarding claim 61, Kennedy discloses the polymer member comprises a molded material (column 2, lines 44).
- Regarding claim 63, Kennedy discloses the first polymer member encapsulates the die.
- Regarding claims 64, 71 and 80, Kennedy discloses the first and second polymer members are selected to provide a substantially equal volume of a molding compound on either side of the leadframe.
- Regarding claim 66, Kennedy's geometries comprise volumes of a molding compound.
- Regarding claim 67, Kennedy's geometries are configured to reduce a package bow.
- Regarding claim 68, Kennedy's geometries are configured to reduce a package warpage.
- Regarding claims 69 and 81, Kennedy discloses the first polymer member substantially encapsulating the die.
- Regarding claim 70, Kennedy discloses the first and second polymer members comprise a molded plastic.
- Regarding claim 72, Kennedy discloses the polymer members comprises a material selected from the group consisting of epoxy, silicon (abstract).

Art Unit: 2814

- Regarding claims 74-75, 77, Kennedy discloses the polymer member encapsulates the die, the lead frame has a lead on chip configuration and the polymer member comprises the molding compound (abstract).
- Regarding claim 79, Kennedy's structure discloses the selected characteristic comprises increased rigidity.
- Regarding claim 82, Kennedy discloses the second polymer member substantially encapsulates the first polymer member.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 62, 73, 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy in view of Inaba (U.S. Pat. 6093958).

Kennedy fails to disclose the first polymer member comprises a tape material and the die is attached and wire bonded to the leadframe.

Inaba discloses a semiconductor device (cover fig.) comprising: a lead frame; a tape material 4 on the die and the lead frame, wherein the die is attached and wire boned to the leadframe. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kennedy to provide a high efficiency and assure in quality and reliability for the lead frame, as shown by Inaba.

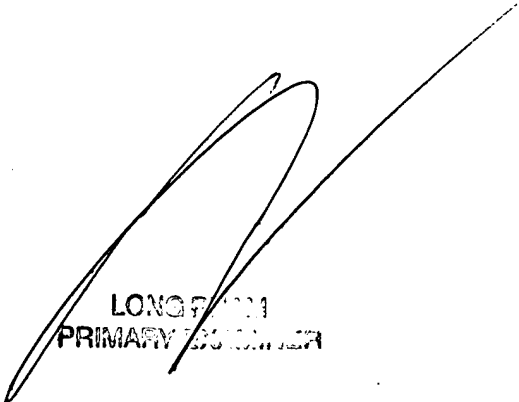
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DLN
March 11, 2004



LONG F. LONG
PRIMARY EXAMINER